

*ICONES PISCUM
OR
PLATES OF RARE FISHES*

JOHN RICHARDSON

1843



MUSEUM OF VICTORIA



38030

Four
[PART I.—Price 10s., Four Coloured Plates.]

ICONES PISCIUM,

OR

PLATES OF RARE FISHES.

BY

JOHN RICHARDSON, M.D., F.R.S., F.L.S., F.R.G.S.

MEMBER OF THE WERNERIAN NATURAL HISTORY SOCIETY OF EDINBURGH; HONORARY MEMBER OF THE NATURAL HISTORY SOCIETY OF MONTREAL, OF THE LITERARY AND PHILOSOPHICAL SOCIETY OF QUEBEC, AND OF THE NATURAL HISTORY SOCIETY OF BOSTON; AND CORRESPONDING MEMBER OF THE GEOGRAPHICAL SOCIETY OF PARIS, AND OF THE ACADEMY OF NATURAL SCIENCE OF PHILADELPHIA.

INSPECTOR OF HOSPITALS AT HASLAR.

LONDON:

PUBLISHED BY RICHARD AND JOHN E. TAYLOR,

RED LION COURT, FLEET STREET.

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PLATE 1

PLATE 2

PLATE 3

PLATE 4

PLATE 5

PLATE 6

ICONES PISCUM.

PREFACE.

THE superintendence of the Museum, established at Haslar Hospital through the exertions of Sir William Burnett, Inspector-General, being part of my official duty, I have thought that by publishing descriptions and figures of rare species in the Transactions of Societies, or in periodical works devoted to Natural History, I might advance the interests of science, and make an appropriate acknowledgement to the naval officers and others whose voluntary contributions support the Museum. In the prosecution of this design I read a paper before the Zoological Society on a collection of fish sent from Van Diemen's Land by His Excellency Sir John Franklin, Lieutenant-Governor of that colony, the first part of which has been published, with illustrative plates, in the Transactions of the Society. Another paper, now in progress of publication in the 'Annals of Natural History,' is devoted to the description of fish collected for Mr. John Gould at Port Essington in Torres Straits, of several species presented to the Haslar Museum by other voyagers, and of the Australian fish discovered by Cook, of which unpublished figures exist in the Banksian Library, or specimens remain in the British or Hunterian Museums. A few additional species from the same seas are noticed in a Report on the Ichthyology of New Zealand, read at the Manchester meeting of the British Association in June last, and some are also described in the Appendix to Dr. Deffenbach's account of New Zealand now in the press. In selecting from the Museum ichthyological subjects first for publication, I am influenced by the fact that they offer more novelty than the other parts of the collection, which arises partly from the great proportion of existing fish which are still undescribed, and partly from the facilities which naval officers have of procuring specimens in that department of Natural History.

The present work was projected with a view of publishing figures which cannot appear in sufficient numbers in the Transactions of the periodicals before mentioned. The first fasciculus contains exact copies of drawings from the portfolio of James B. Emery, Esq., late first lieutenant of the Beagle surveying vessel employed on the western coasts of Australia. These representations of the recent fish are valuable records of the true colours of the species, and were evidently executed with much care, but, like all drawings of fish not made under the eye of an ichthyologist, they are unavoidably deficient in the expression of certain generic characters. This very circumstance renders their publication most desirable, for verbal descriptions of them may mislead the naturalist,

but the plate enables him to judge for himself, and will also guide any officer who may hereafter visit the same coast in his search for desirable specimens.

I cannot conclude this brief notice of the circumstances which led to the commencement of this work without expressing my thanks to John E. Gray, Esq., of the British Museum, for the valuable aid which he has afforded me now and at former times, and without which, living as I do at a distance from London, I could not have ventured upon the task I have set myself.

Royal Naval Hospital at Haslar,

December 1, 1842.

Obs.—The Fasciculi of this work will appear at uncertain intervals, according to the encouragement it receives. When the drawings are made from specimens kept in spirits, they will not be coloured; and as a considerable expense will in that case be spared, a greater number of figures will then be included in one fasciculus. The charge will not exceed the actual outlay.

FIRST FASCICULUS.

AUSTRALIAN FISH.

PERCIS EMERYANA (*Nob.*), Emery's Percis.

Percis emeryana, Annals of Nat. Hist. for April 1842, No. 56. p. 130.

PLATE I. Fig. 1.

The fish which the figure above quoted represents was taken at Depuch Island, and measured seven inches in length. Being unlike all the species of which I was able to procure figures, I described it as new in the 'Annals of Natural History,' quoted above; but on again carefully reading over the account of the genus in the 'Histoire des Poissons,' I find that it has many of the characters of a fish in Broussonnet's collection, which Cuvier mentions as a variety of his *Percis nebulosa* (p. 263). Some of the markings represented by Lieut. Emery may have become effaced in Broussonnet's specimen. The height of Emery's Percis is only one-seventh of the entire length, while the length of *nebulosa* is said to bear a proportion of $5\frac{1}{2}$ to the height. *Nebulosa* was taken in Shark Bay, New Holland, and also at the Isle of Bourbon. It must be left to future observers to determine whether the differences pointed out in the 'Histoire des Poissons' between *nebulosa* and Broussonnet's fish are permanent or variable, and whether Lieut. Emery's specimen be identical with either. The publication of his excellent figure will render the establishment of the fact either way more easy.

HEMISCYLLIUM TRISPECULARE (Nob.), Tri-ocellated Hemiscyllium.

No. 41. Lieut. Emery's drawings.

PLATE I. Fig. 2.

The individual which Lieut. Emery has drawn was obtained at Turtle Island on the north-west coast of Australia, and measured twenty-three inches in length. The genus *Hemiscyllium*, established by Müller and Henle in their 'Beschreibung der Plagiostomen,' is entirely founded on the *Squalus oculatus* of Solander, figured by Parkinson in the Banksian collection of drawings made on Cook's voyages, and also in Griffith's translation of Cuvier's 'Animal Kingdom,' under the name of *ocellatus*, which was given to it by Broussonnet and Gmelin. A specimen exists in the British Museum. After consulting these authorities, I cannot but conclude that Lieut. Emery's fish is, if not a distinct species, at least a very well-marked variety which deserves to be published. It differs much in its spotting from the Banksian drawing, which being made also from the recent fish furnishes the best subject for comparison. The latter has one large oval, almost round, black spot with a white border, in the same situation where Lieut. Emery's figure shows one round spot and two half ones. It also wants the vertical bands, and the spots on the body are fewer, smaller, and irregular, a few only on the bases and upper edges of the vertical fins being larger; but they make no approach to the regularity of the round, approximating spots, with three or four darker dots in each, which ornament the entire body of *trispeculare*. The small simple spots which cover the face of *trispeculare* are wanting in the Banksian species, and the spots on the fins are fewer. The ground colour of *trispeculare* is pale and bright yellow, crossed by fourteen vertical brown bands of different breadths. The first band crosses the pectoral region, and the second embraces the base of the ventrals, but spreads farther forwards. The remaining bands are separated by spaces narrower than themselves, and the fourteenth occupies the tip of the caudal. The vertical fins are also banded. The round spots are nearly of the same hue with the bands; the dots they contain are of a darker brown. The specimen figured has short claspers. These organs are also represented as short in Griffith's figure. The Banksian drawing seems to have been made from a female fish.

MONACANTHUS MEGALOURUS (Nob.), Big-tailed Monacanth.

No. 7. Lieut. Emery's drawings.

PLATE I. Fig. 3.

This species resembles in its markings the *Monacanthus geographicus* of Peron (Cuv. Règn. An. pl. xi. f. 2.), but still more nearly Bloch 152, f. 1. and a Chinese fish represented in number 266. of Mr. Reeves's collection of drawings. With this latter it agrees closely in its dorsal profile, but differs in other particulars, the Chinese fish having a comparatively larger dewlap much more generally studded with black dots, and more numerous speckled on the margin with blue ones of a smaller size than those represented in Lieut. Emery's figure. The spine of the Chinese specimen had been mutilated, but its soft dorsal and anal are higher, and present a decidedly different outline from those of the Australian fish; they want the orange-coloured streaks, and the anal also wants the two rows of diaphanous spots, their place being supplied by dark specks. The caudal has the two upper rays prolonged as in the *bifilamentosus* of Lesson, though not so far, and its bands of colour are differently distributed from those of *megalousurus*, which offers, as a further distinction, the largest caudal fin of any *Monacanthus* that I have seen specimens of, or figures. Neither the Chinese figure nor Lieut. Emery's shows any trace of the little rough appendage to the pelvis which most of the other species possess, and which is very conspicuous in *geographicus*. The fin-rays of the Australian fish are, D. 32, A. 29; of the Chinese one, D. 31, A. 27. The ground colour of the former is reddish-brown, the blotches which give it a map-like appearance are dark umber, as are also the spots towards the bases of the fins and the upper rows on the dewlap. The two or three rows of spots on the border of the dewlap and the three posterior stripes on the caudal fin are flax-flower blue. The rest of the caudal has its dark and light parts like those of the body in hue, but arranged in mottled bands. The extreme margins of the dorsal and anal fins are white or diaphanous, and the two stripes which adjoin it are brick-red, which colour also tints the pectoral.

The *Balistes spinosissimus* of Quoy and Gaimard, discovered in Shark Bay, is very different in form from this species, which was obtained by Lieut. Emery about 180 miles farther to the southward, at Houtmans Abrolhos. The recent specimen measured nine inches in length.

SILLAGO BURRUS (Nob.), Crimson-backed Sillago.

Sillago burrus, Richardson, Ann. of Nat. Hist. for April 1842, No. 56. p. 128.
No. 37. Lieut. Emery's drawings.

PLATE II. Fig. 1.

The drawing of this species, which is exactly copied on the plate, was made on the north-west coast of Australia from an individual measuring $8\frac{1}{2}$ inches in length. Three species of this genus, inhabitants of the Australian sea, are described in the 'Histoire des Poissons,' the *maculata*, *bassensis*, and *punctata*, all figured by Messrs. Quoy and Gaimard in the Atlases of the voyages of the Uranie and Astrolabe. Lieut. Emery's figure shows neither serratures on the preoperculum, nor a spinous point on the operculum; but these generic characters are by no means conspicuous in some of the other species, and are not likely to attract the attention of an artist who has not systematically studied ichthyology. The general aspect of the fish, however, is so much that of a *Sillago*, that there seems to be little danger of a mistake in referring it to that genus. It has most resemblance to the *maculata* which frequents Port Jackson, but differs from it in possessing a higher body and in wanting the silvery lateral stripe which the three previously discovered New Holland species have. The coloured figure renders it unnecessary to repeat here the detailed description of *burrus*, which is given in the 'Annals of Natural History' as above quoted.

ELEOTRIS TRABEATUS (Nob.).

No. 22. Lieut. Emery's drawings.

PLATE II. Fig. 2.

This elegant little fish was discovered by Lieut. Emery at Depuch Island, and is evidently distinct from all the species of *Eleotris* described in the 'Histoire des Poissons.' It approaches nearest to the *strigatus* observed by Solander and the

Forsters at Otaheite, and bearing among the natives the appellation of "taiboa" or "taipoa." The individual which was drawn by Lieut. Emery measured $5\frac{3}{4}$ inches.

It has a more depressed head with a less obtuse snout than *strigatus*. The body is also more slender, its height not exceeding a seventh of the total length. The head forms a sixth part of the same. The eye projects above the line of the profile. The height of the body is greatest under the first dorsal, and diminishes regularly both ways; the pectoral is ovate, with an acute tip; the ventrals are short and elliptical. The first dorsal commences over the ventrals and scaly base of the pectorals, and is considerably lower than that of *strigatus*; its third ray, which is the tallest, not exceeding the height of the body. In *strigatus* the second ray surpasses the others, and is two times and a half higher than the body. The second dorsal and anal of *trabeatus* are proportionally higher than the same fins in *strigatus*, being as tall as the fifth ray of the first dorsal. The caudal is lanceolate and acute. The scales are moderately large, and entirely cover the head.

The general colour of the fish is pistachio- or sap-green, fading to greenish-white on the belly and extending to the fins, but being very pale on the second dorsal and anal. The membrane of the fins is mostly diaphanous. Four equidistant carmine-red streaks run from the snout over the side to the caudal fin, the lower one being somewhat beneath the middle of the height, and the upper one running close to the dorsal. The two lower lines in their passage over the cheek and gill-cover are edged with bright blue; and a bar, similarly composed of carmine and blue, runs beneath them from the angle of the mouth to the gill-opening. The lips at which these bars originate are tinted with carmine. One of the upper lines passes above the eye, the other through it, and both these are without the blue edging. Six or seven red lines cross the first dorsal obliquely; the rays of the second dorsal are red, and a single red streak traverses the anal, near its base, curving towards its end. The caudal is edged with carmine, and is traversed longitudinally by eight stripes of the same. The rays of the ventrals are white.

AULOPUS PURPURISSATUS (Nob.), Imperial Aulopus.

No. 11. Lieut. Emery's drawings.

PLATE II. Fig. 3.

I am not aware that any *Aulopus* was known to inhabit the southern seas previous to the discovery of the present species on the west coast of New Holland by Lieut. Emery. It was taken among the rocks of Houtmans Abrolhos between the 28th and 29th degrees of south latitude, and the example represented on the plate measured 19 inches. The details of form may be readily obtained from an inspection of the figure, which is the sole authority for the species. The generic characters are so fully expressed by Lieut. Emery, that there will be little question on that point. The general colour of the body is purple, darker on the back and lighter on the sides. Six vertical bands of a darker tint appear obscurely at equal distances. The scales are edged boldly with red, producing a meshwork. The long filamentous ray which begins the dorsal, and the head, with the exception of the scaly cheek and operculum, are red. The yellow caudal is interruptedly barred with the same. The other fins are regularly spotted with brownish-red, and there are dots of the same on the branchiostegous membrane. The dorsal is opposed to the whole space between the ventrals and anal.

JULIS? DRINGII (Nob.), Blue-mantle Julis.

No. 43. Lieut. Emery's drawings.

PLATE III. Fig. 1.

The splendid fish represented by the drawing above quoted was taken in Safety Bay, South Australia. Its specific name is, by the desire of Lieut. Emery, bestowed in remembrance of a messmate of his who captured the fish a short time before he died. The genus is in some degree uncertain, as some details of structure remain unknown; but the resemblance which the figure bears to No. 100. of the admirable Chinese drawings, executed at Canton under the superintendence of J. Reeves, Esq., is so close, that little doubt can remain of both being members of the same genus. The Chinese figure acquaints us with some particulars which cannot be made out from that of Lieut. Emery, namely, that the teeth on the jaws are subulate in a single row, and that the dorsal contains eight spinous rays and the anal one. The formula for the rays of the Chinese fish is, D. 8|15; A. 1|14; V. 1|4; P. 12; C. 11 $\frac{1}{2}$. These are the numbers of a *Julis*. The Australian fish, if there was not an accidental oversight by the artist when he reckoned the rays, has the dorsal of an *Odx*, to which genus I was inclined to refer it before I saw the Chinese drawing. The other points in which the figures differ, exclusive of the colours and markings, which are very distinct, are the smaller mouth, the more backward position of the vent, and consequently shorter anal of the "Blue-mantle," which has also the scales on the upper part of the head continued forward to the eye, while the Chinese fish is scaleless from the nape forwards. The individual which was the subject of Lieut. Emery's drawing measured ten inches and a half in length. The height of the body at the ventrals is equal to a sixth, and the length of the head to a fourth of the whole length, caudal included. The body appears to be subcylindrical, and to taper gradually from the pectoral region into the trunk of the tail, whose length, equalling its height, does not exceed one-fourteenth of the length of the fish. The head is long and tapering, the profile descending in a slope from behind the eye to meet the horizontal line of the throat in the tumid lips. The mouth is small, its orifice not extending beyond a third of the length of the snout. The rather large eye approximates to the profile, and is nearly equidistant from the mouth and gill-opening. The nostrils are pierced about midway between the eye and upper lip. The scales are moderately large. The head is naked, except behind the eyes and above the upper angle of the gill-opening.

Rays:—D. 33? A. 1|15; C. 11 $\frac{1}{2}$; P. 14; V. 1|4.

The shortish ventrals are attached beneath the anterior third of the rounded pectorals. The dorsal, commencing just over the margin of the gill-cover, occupies most of the back; it has an even margin and a moderately rounded termination. The anal is shorter, but otherwise similar. The caudal is much rounded.

The head and sides have an intense china-blue or smalt colour, which in a paler tint forms also the ground colour of the three vertical fins. A pure black reigns along the back from the nape to the caudal fin, and is deeply scalloped into the blue of the sides, the obtuse indentations, seven in number, reaching half-way down. The lips and under surfaces of the head and body are bluish-white. The cheeks and gill-covers are ornamented by short oblique waving lines of saffron-yellow, several of which radiate from a line of the same colour which borders the lower half of the orbit. On the flanks there are six rows of short waving yellow lines lying lengthwise, and extending from the gill-opening to the caudal. The

vertical fins have delicate reddish-lilac edges, and are traversed by waving saffron-yellow lines, two on the dorsal and anal, and five across the caudal; the distal one being rather a string of oval beads than a continuous line. A black basal stripe traverses the posterior third of the dorsal. The pectorals and ventrals are pale berlin-blue, with gamboge-yellow streaks on the bases of the rays.

MESOPRION ? ? EMERYII (Nob.), Blue Crescent-tail.

No. 42. Lieut. Emery's drawings.

PLATE III. Fig. 2.

This fish, so remarkable for its colours and its magnificent tail, has a general likeness to the *Spare demi-lune* of M. Lacepède, iv. pl. 3. f. 1. (*Mesoprion chrysurus*, C. & V. pl. 40.), but it excels that fish in the purity and brilliancy of its colours, and in the magnitude of its crescentic caudal fin*. I can attest the faithfulness of Lieut. Emery's representations of the several known species that he obtained, and it is his exactness in these instances which forms the chief ground for hesitation in referring this fish to the genus *Mesoprion*, for his drawing shows no scales on the cheek. But M. Lacepède's figure is in precisely the same predicament, yet it is quoted by Cuvier as a representation of the species. The serratures of the preoperculum are also absent; though this is of less importance, as several undoubted members of the genus exhibit this character so faintly, that it is sure to escape the notice of an artist unacquainted with ichthyology, and indeed could not be exhibited in a drawing without exaggeration. But for the resemblance I have mentioned, the general characters of the figure would have inclined me to refer the fish to the Sparoid or Mænoid family. Lieut. Emery's figure is half the natural size of the fish, which was taken at Barrow Island, off the north-west coast of Australia, in the twenty-first parallel of south latitude.

Form.—The profile of the head and body is a handsome ellipse, the curves of the back and belly being equal and uniform, and meeting anteriorly in the thickish lips: posteriorly the curves are lost in the rather thick trunk of the tail. The body is highest between the pectorals and anal, and about one-third nearer the latter. Its height there equals one-third of the length from the snout to the middle of the central caudal rays, or somewhat less than one-fifth of the whole length of the fish, the horns of the caudal crescent included. The trunk of the tail measures two-fifths of the height of the body: it is not linear, its profile joining imperceptibly with the curves of the body, and posteriorly with those of the expanding lobes of the caudal. The lobes of this fin taper in a crescentic manner to acute points, which expand to a distance equal to twice the height of the fish. The central rays of the fin have less than one-third of the length of the lobes. The length of the head is equal to four-fifths of the height of the body. The preoperculum has a rounded angle, rendered somewhat prominent by the ascending limb having a slightly concave edge, and the horizontal one being also perceptibly concave. The scaly surface is represented as extending over the occiput to the eye, but there are no scales on the gill-covers or rest of the head. The teeth are distinctly shown on the jaws, and detached as canines would be if represented in a figure one-half the natural size. The pectorals are rather small and of a scalene triangular form, the larger upper ray forming the acute point, and the lower angle being rounded. The ventrals, attached opposite to the pectorals and showing five rays, are rounded with a short filamentous tip, which goes beyond the pectorals. The dorsal commences directly over the edge of the gill-cover: its first ray is short and approximated to the second, which with the two or three following ones is graduated, thus slightly rounding the beginning of the fin that is otherwise of equal height throughout, though it partakes of the curve of the back. Neither in it, nor in the anal, does the drawing distinguish the spinous from the articulated rays, the whole number being eighteen in the dorsal and ten in the anal: their membranes appear to be transparent, delicate, and without scales. A considerable space intervenes between these fins and the caudal, whose form has been already described. The scales of the body are moderately large.

Colour.—The body and caudal are brilliant china- or smalt-blue, which passes on the belly below the level of the pectoral into a dilute tint of wood-brown. The blue colour encircles the scaly base of the caudal, and the margin of the fin in the centre of the blue crescent is edged by a narrow lunate patch of white, which increases the apparent depth of the curve. The head is brownish-orange on the top, gradually changing to gamboge-yellow on the cheeks and gill-covers. A narrow stripe of gallstone-yellow, graduating into brownish-orange, but evenly defined by the blue ground, commences at the nape, and following the curve of the back, near the base of the dorsal, ends where the trunk of the tail begins to assume the curve of the caudal lobes. A broader stripe of gamboge-yellow, edged above with gallstone-yellow and below with ochre-yellow, commences at the eye and runs above the pectoral, straight along the side and through the middle height of the tail, to terminate opposite to the upper one. The fore part of the dorsal is very slightly tinged with yellow; the rest of the fins, excepting the caudal, are colourless.

LETHRINUS ? CYANOXANTHUS (Nob.), Blue- and yellow-faced Lethrinus.

No. 16. Lieut. Emery's drawings.

PLATE IV. Fig. 1.

Notwithstanding the absence of scales on the operculum, I am disposed to place this fish provisionally in the genus *Lethrinus*. It has a good deal of the generic aspect, and several of the known species have somewhat similar fascial streaks†. The specimen represented in the plate was taken at Houtmans Abrolhos, and measured $23\frac{1}{2}$ inches in length.

The colours of this showy fish are gamboge-yellow on the nose, sides of the head, and all the fins, except the caudal, in which this colour is confined to the slightly crescentic margin. The upper ray of the pectoral and all the ventral rays are blue. The cheeks are also traversed by blue bands, three of them radiating from the eye and running to the angle of the mouth and the interoperculum; the fourth descends over the operculum and suboperculum, in a curve parallel to the edge of the gill-flap. The lips and under jaw are pale blue and white. The rest of the fish is honey-yellow, darker along the

* This comparison can be made more appropriately with the ruder figure of M. Lacepède than with the plate in the 'Histoire des Poissons,' because of the smallness of the caudal fin as shown by the latter.

† A Chinese species, No. 245. of the collection of drawings made by J. Reeves, Esq., has nearly similar blue streaks on the face, and no great difference in form, but the ground colours of the face, body and fins are totally different. The *L. genivittatus* (C. & V. pl. 159.) has blue bars on the cheek differently disposed: its general hue is reddish.

back and on the forehead. The tips of the scales are brighter, approaching to king's-yellow, with their bases darker, giving a somewhat spotted appearance to the body. The iris is yellow, with a purplish-brown exterior circle. It is not advisable to enter deeply into the details of form of a species proposed from the figure only, but the points most worthy of remark are the undulations of the vertical edge of the preoperculum, and the comparative lowness of the spinous portions of the dorsal and anal.

LETHRINUS? CINNABARINUS (Nob.), Blue-lined, red Lethrinus.

No. 17. Lieut. Emery's drawings.

PLATE IV. Fig. 2.

This figure represents a fish twenty-five inches long which was taken at the same place with the preceding species, and nearly resembles it in general form. The profile of the forehead of this one is more convex, but there is little other difference. The fins have the same shape in both; the numbers of their rays are, D. 19; A. 12; C. 16 or 18; P. 16; V. 15. The head, body and fins are scarlet, the colour of the anal being less pure, and a darker bar terminating the caudal. There are five azure-blue lines, running parallel to the back, from the nape to the upper half of the caudal, evidently not descending below the usual course of the lateral line, though that is not indicated. The iris is gamboge-yellow, with some black bars on the outer circle. The *Lethrinus miniatus*, *L. erythropterus*, *L. xanthopterus*, *L. erythracanthus*, and several other species described in the 'Histoire des Poissons,' are more or less extensively coloured red, but in none of them is that colour so generally diffused as in *cinnabarinus*, which is further characterized by its blue dorsal lines.

MÆNOIDES? CYNEO-TENIATUS, Blue-striped Mænoid?

No. 19. Lieut. Emery's drawings.

PLATE V. Fig. 1.

This fish was taken at Depuch Island, off the north-west coast of Australia, in the twenty-first parallel of south latitude. The specimen that was figured measured $7\frac{3}{4}$ inches in length. I am unable from the inspection of the figure alone to assign this fish to a genus with any degree of confidence, and have not therefore attempted it. It has the aspect of a Sparoid or Mænoid fish, and the fusiform body of a *Cesio* in particular, but its dorsal fin is not higher anteriorly, nor are there any scales on the membrane as is usual in the species of that genus. Its proper generic name must remain for future determination; in the mean time the publication of the figure will direct the attention of voyagers to an interesting fish, of which a specimen is very desirable.

The body is fusiform, tapering most towards the tail. Its greatest height behind the ventrals falls a little short of a third of the length, caudal excluded. Preoperculum much rounded. Dorsal commencing over the base of the pectorals, nearly even, and containing nineteen rays (10|9?). Anal opposite the soft part of the dorsal. Ventrals under the middle of the pectorals. Caudal lunate. Scales moderate-sized, extending over the whole head and the base of the caudal. Colour of the head and body yellowish-brown, gradually fading on the sides and cheeks to a dilute wood-brown approaching to white. A flax-flower-blue streak encircles the forehead, touching the upper edge of the orbit, and crossing the snout and nape. Three stripes of the same colour run from the nape to the upper part of the caudal fin, the uppermost of which coats the base of the dorsal. A fourth blue stripe commences at the angle of the mouth, and running close beneath the orbit and over the pectoral widens on the side, and again narrowing by degrees, ends at the base of the central caudal ray. The caudal fin is unspotted sulphur-yellow, the pectorals pale yellow, the ventrals flesh-coloured, and the anal and dorsal yellowish-white and diaphanous. The dorsal is tipped throughout by a buff-coloured stripe, and a blue longitudinal streak crosses the middle of the soft part of the fin.

MÆNOIDES? AURO-FRENATUS, Gold-bridled Mænoid?

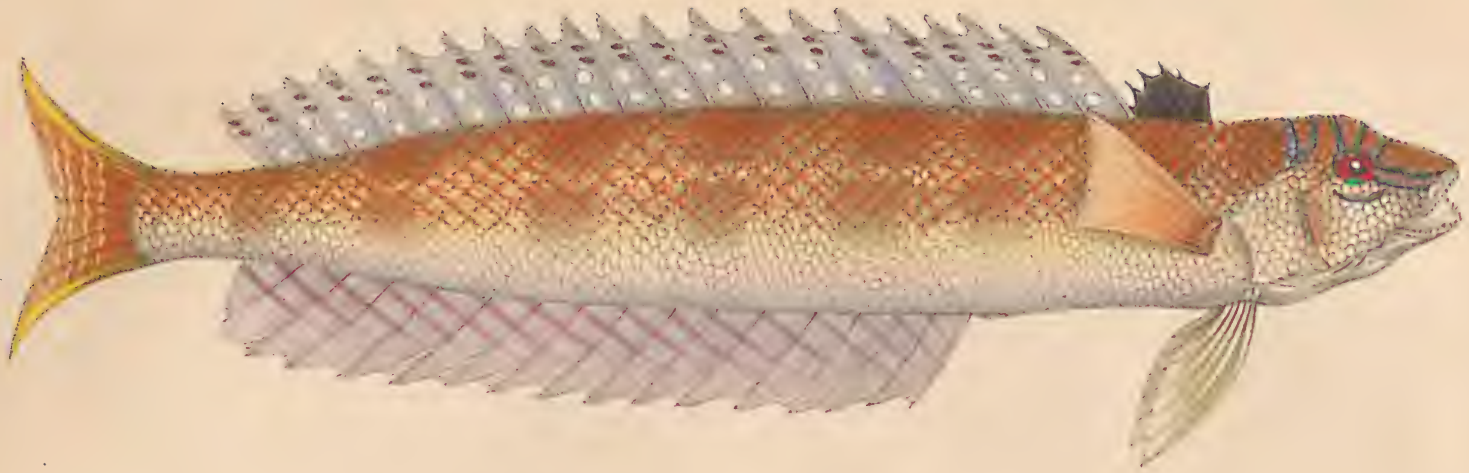
No. 4. Lieut. Emery's drawings.

PLATE V. Fig. 2.

This fish was taken in Tale Bay, Australia, and the example of which the drawing was made measured $8\frac{1}{2}$ inches. The same difficulty of assigning this species to its proper place in the system occurs which was felt in treating of the preceding one, and I have therefore abstained from naming its genus. The form of its body and its lateral golden stripe associate it with the Blue Crescent-tail of Plate III. fig. 2, and they are perhaps of the same genus, whatever that may be. The body is fusiform, tapering most towards the tail, the greatest height being equal to one-third of the length, not including the caudal fin. The fins are placed as in the preceding species, except that the ventrals are a little farther forward, and the anal is very small and opposed to a smaller portion of the hind part of the dorsal. The dorsal itself is low throughout and nearly even, the decrease from the second ray, which is the highest, to the last being small. The caudal is lunate to the depth of half the length of its rays, but its tips are not acute. The scales of the body are much larger than those of the preceding species, and they even surpass those of the Blue-tail considerably in size. The snout and sides of the head are naked. The mouth is small. Colour of the top of the head and body wood-brown, gradually fading below the line of the pectorals to greyish-white. Ventrals, pectorals, and caudal tile-red, with a tinge of olive at their bases. Dorsal and anal pale greenish-blue. A smalt- or china-blue streak skirts the base of the dorsal, and runs forward to the nape. The same colour forms a semi-elliptically curved streak on each side of the tail. The sides are traversed from the eye to the upper third of the caudal by a gamboge-yellow band, which tapers both ways from its middle, and is separated lengthwise into two different tints, the line of junction probably being coincident with the lateral line, which is not expressed by the artist. A gamboge-yellow streak crosses the forehead from eye to eye, and another crosses the snout and runs over the cheek to the edge of the gill-flap. The anterior half of this one is edged beneath with blue, and between it and the yellow frontlet there is a blue streak which runs from the nose to the shoulder, being interrupted in the middle by the eye. The iris is yellow, with two blackish concentric rings.

Plate 1

1



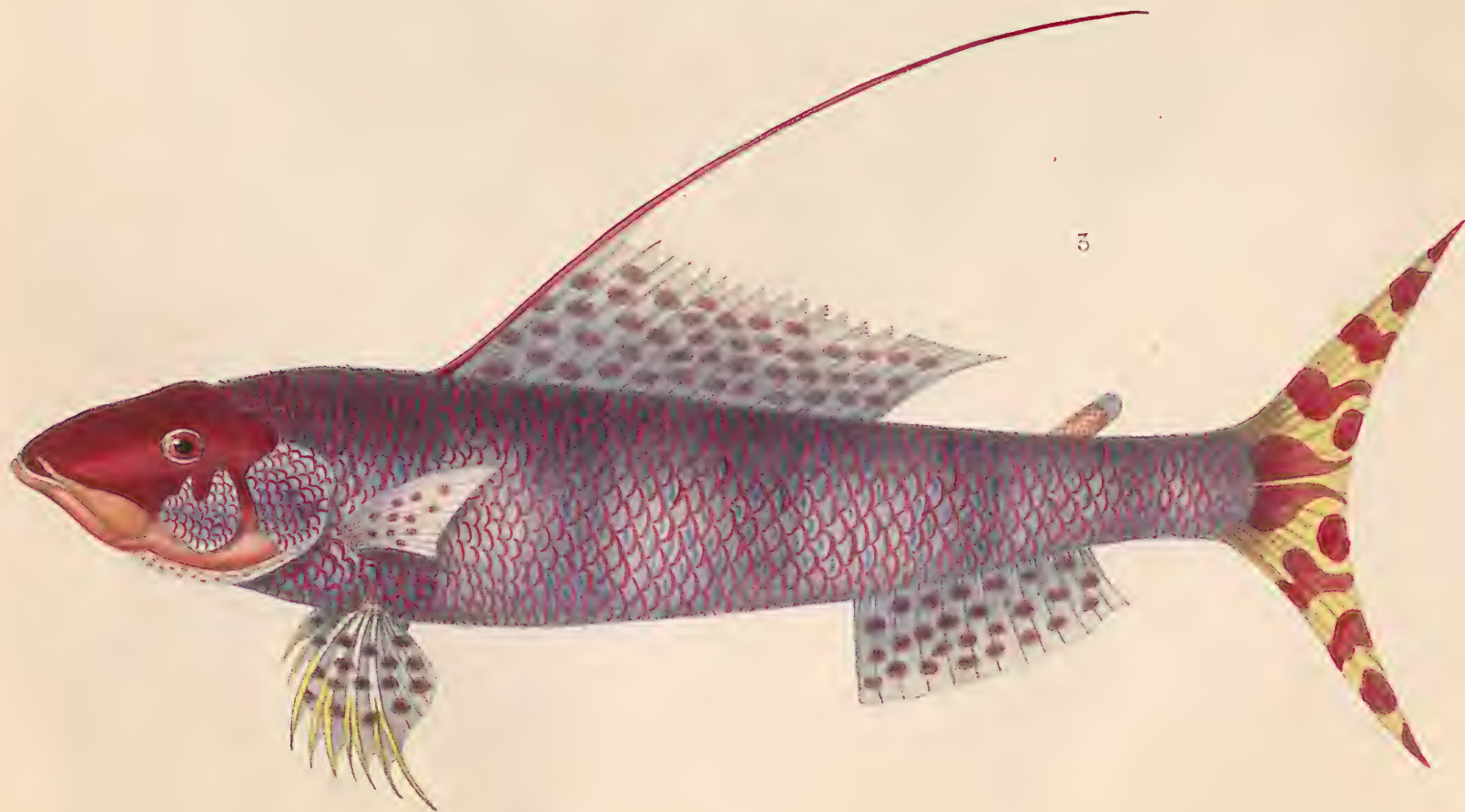
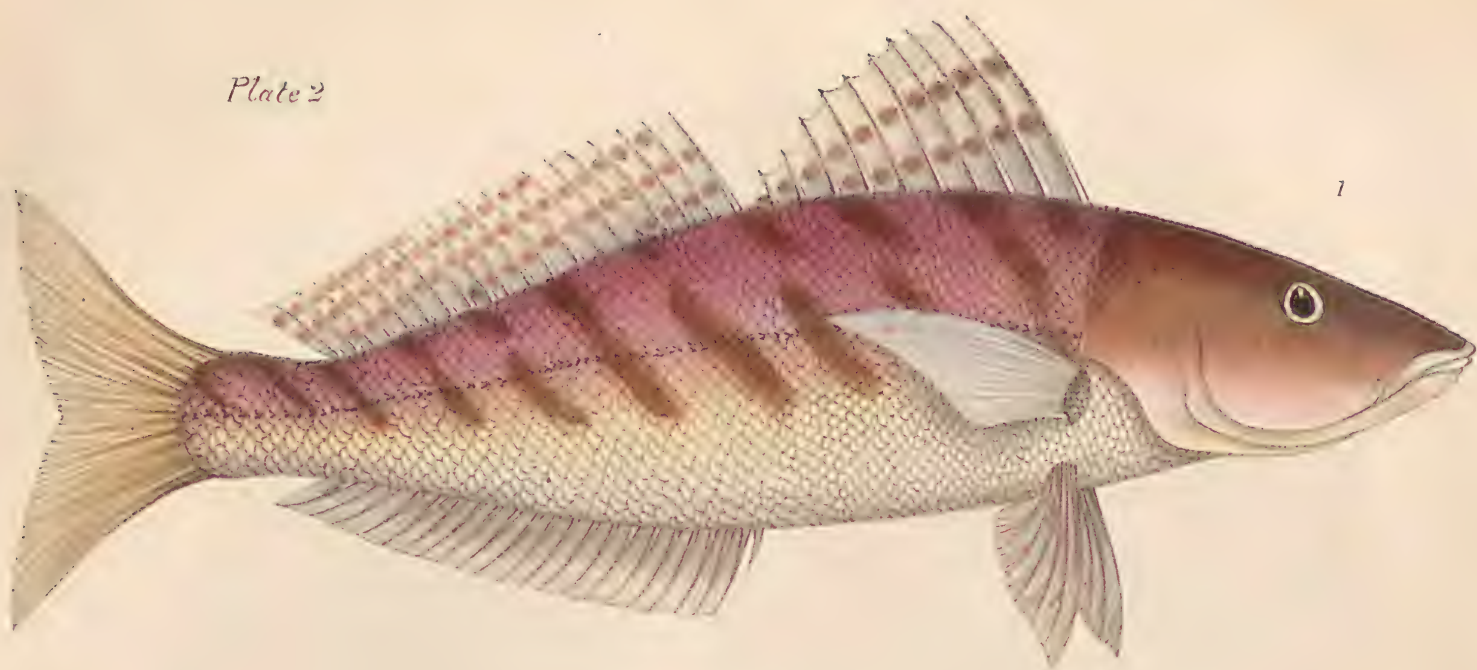
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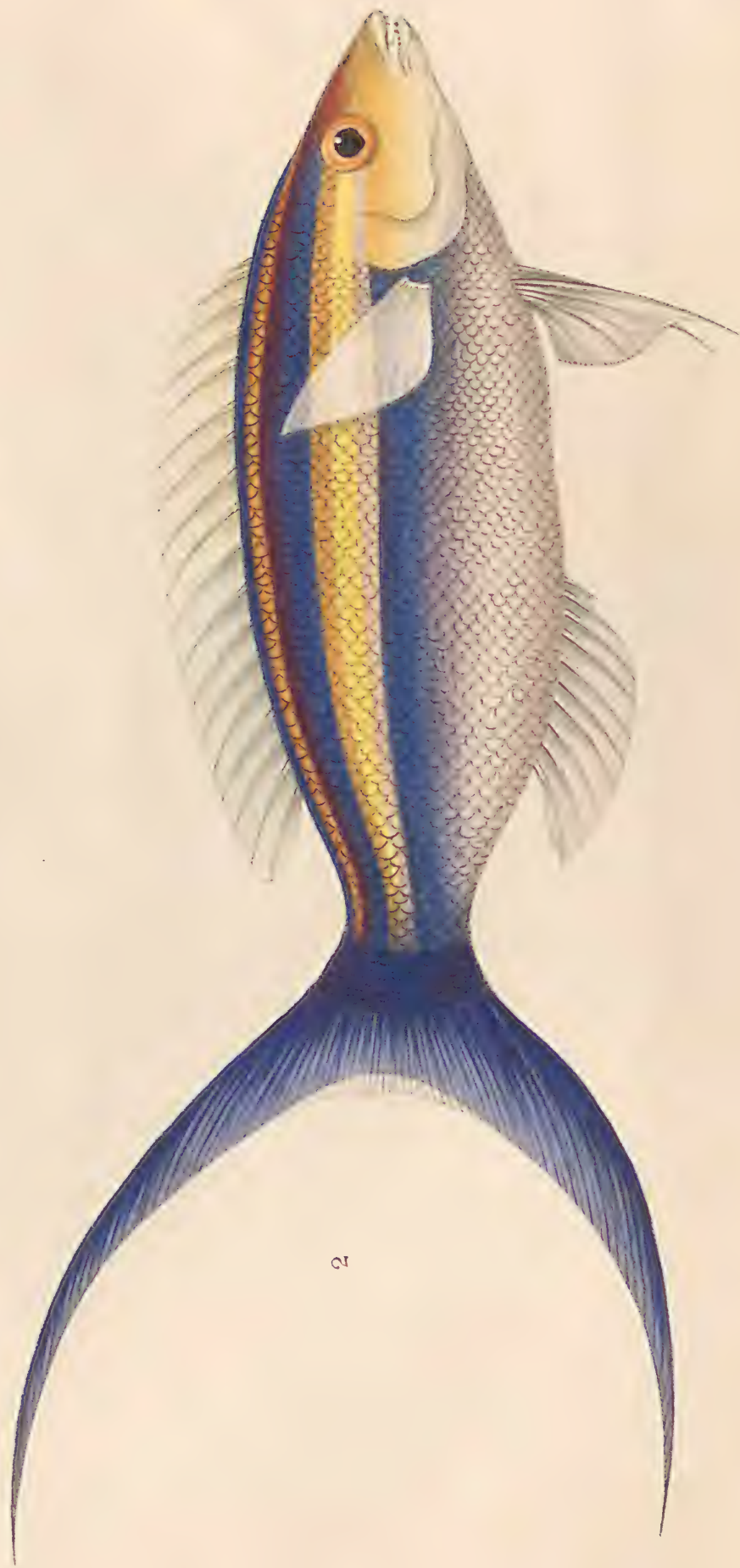
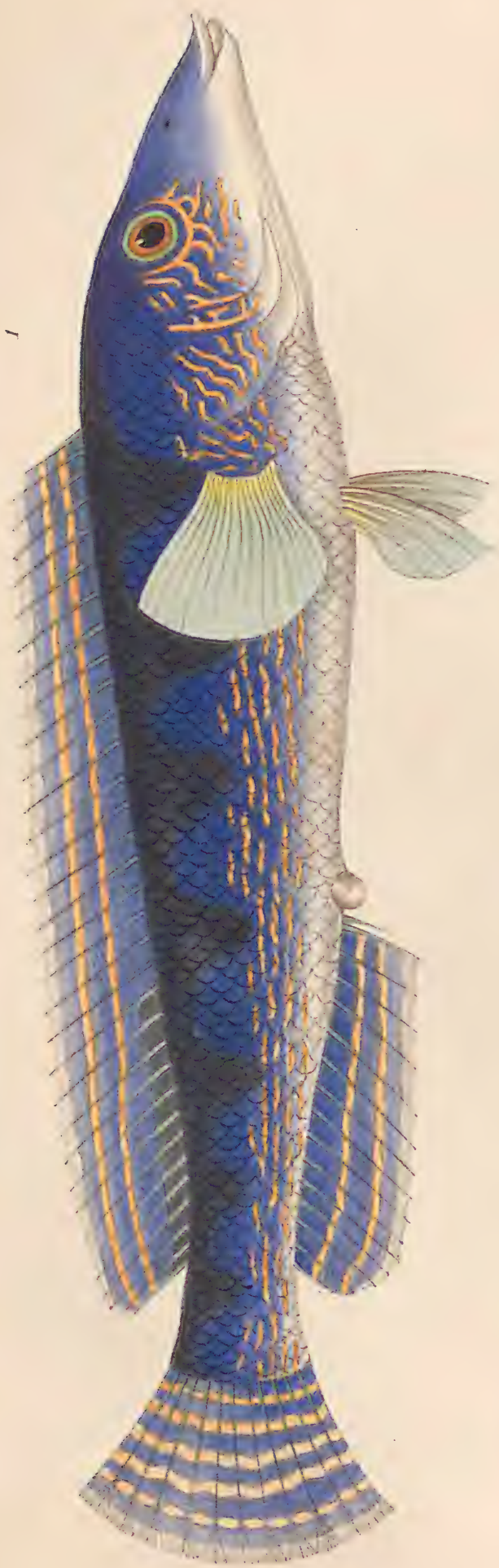
3



Plate 2







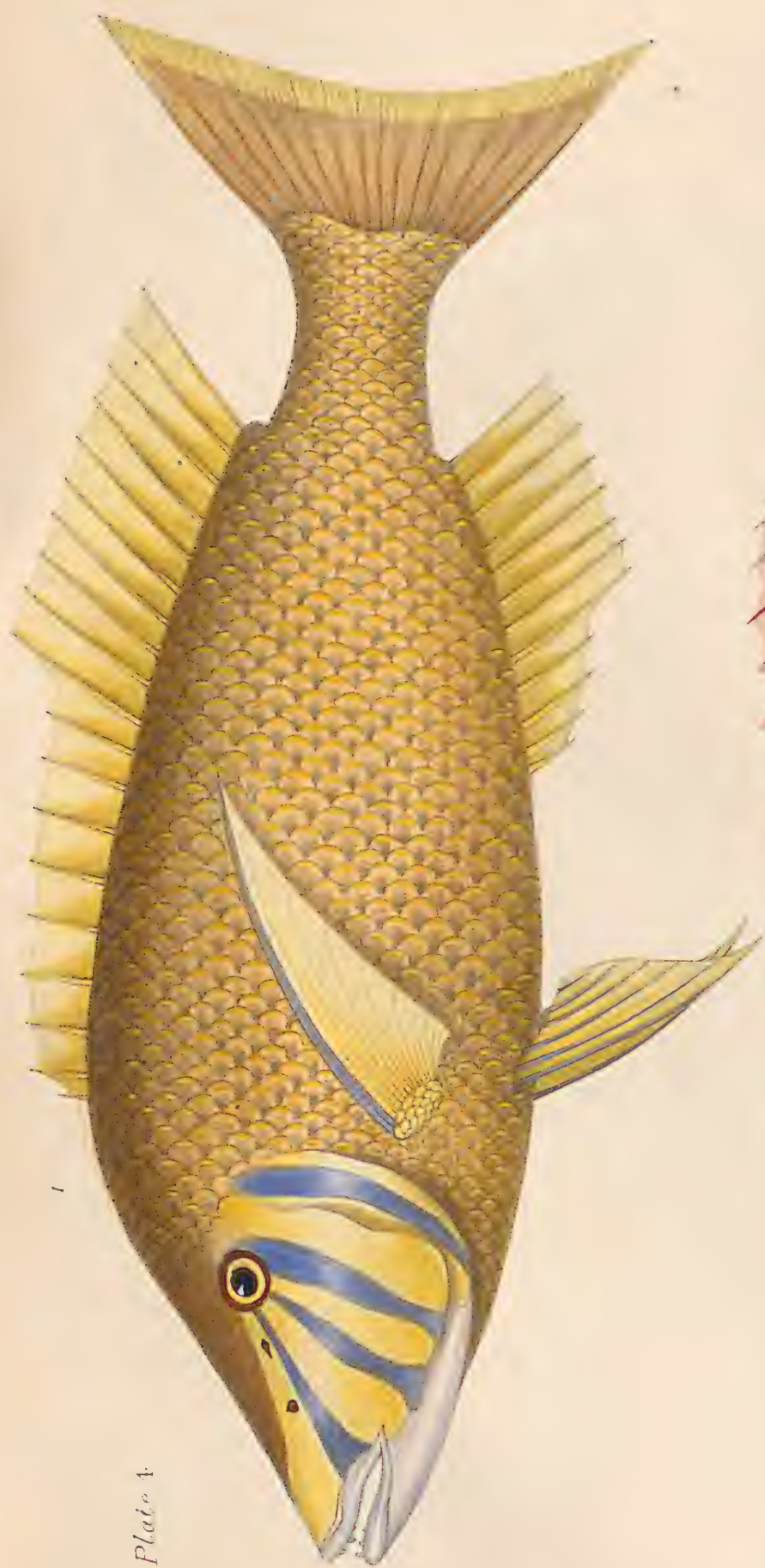


Plate 1

